

that vast area beyond 60 degrees parallel – the land we have come to call our North with a capital N.

Sit back for a moment and consider this seemingly limitless hinterland.

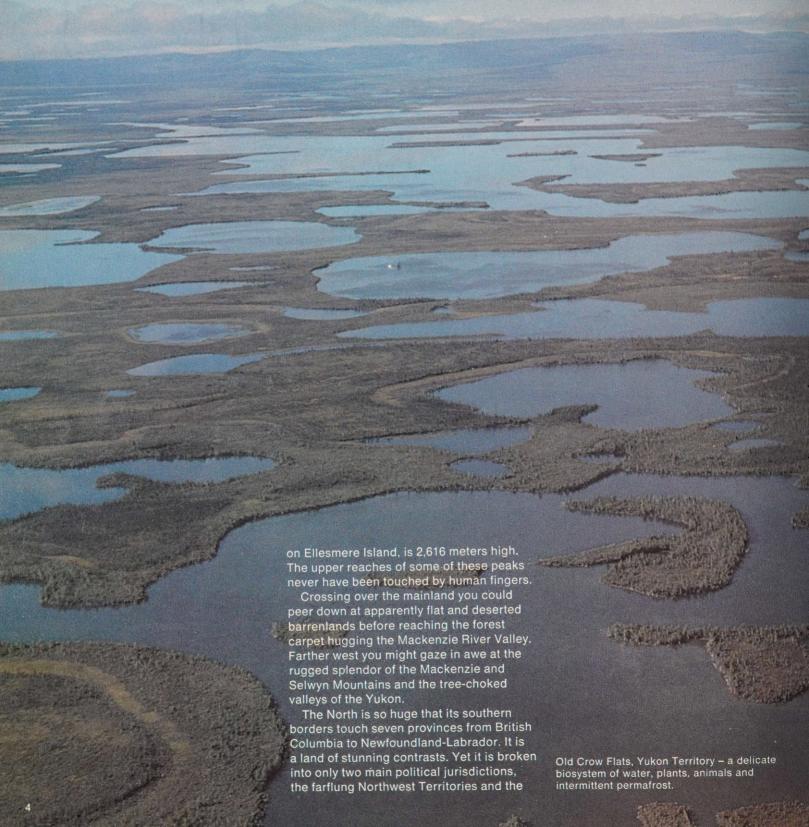
Our North covers an incredible 3,885,000 square kilometers, or 40 per cent of Canada, the world's second largest country. From east to west it stretches 4,256 kilometers and from the North Pole to the 60th parallel it is 3,560 kilometers long.

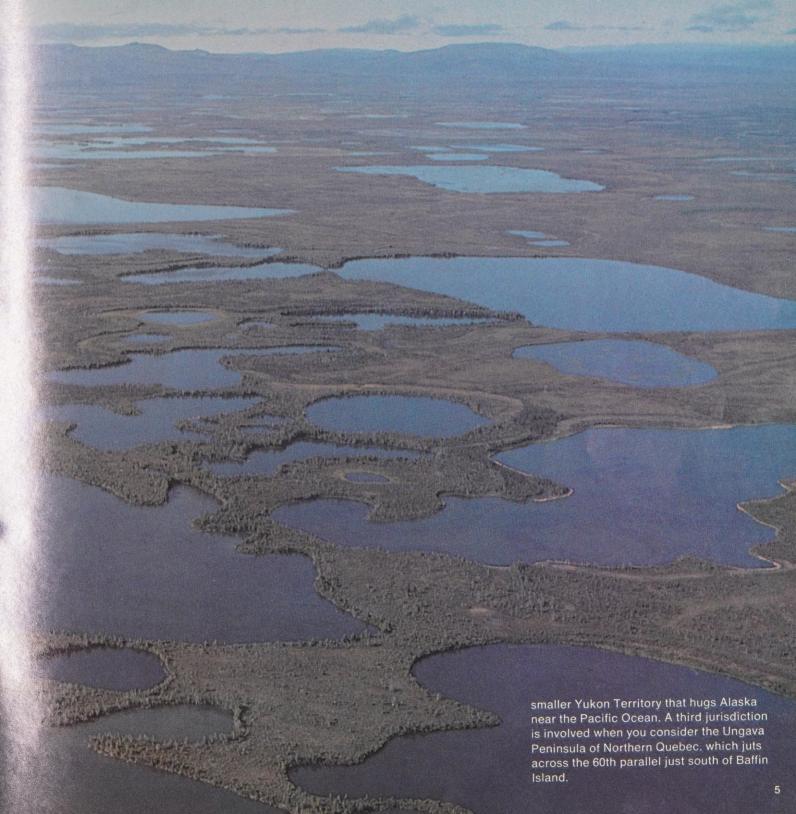
Flying high in the sky on a crystal clear day is the best way to gain a real appreciation of its immensity. Imagine if it was possible to fly in a modern jet aircraft from Cape Dyer on the east side of Baffin Island to Beaver Creek, Yukon, Canada's westernmost community. You would be in the air at least five hours. Or, if you could make the trip in a single-engine Otter, one of the bush planes that helped to open the North, you

would be airborne for three eight-hour days, perhaps longer.

En route you would pass over the Arctic Islands, some larger than several European countries. If you veered north, you would catch a glimpse of the polar ice pack, the floating ice continent that moves imperceptibly on a perpetual clockwise journey around the Pole. You also would see magnificent mountains with icy peaks towering high above the islands. One, Barbeau Peak











that it is not cold, but there are colder places in the world. The cold is dry and is not really severe unless it is combined with a cutting wind. Actually, on many days the temperatures up North are not much lower than the coldest days witnessed on the Prairies.

The cold lasts longer, however. It has been estimated that it takes one-third more

fuel to heat a home in the southern Yukon than in Ottawa, almost three times as much in Inuvik, N.W.T., near the Arctic Coast. The persistent cold also makes it more expensive to operate machinery.

The coldest temperature ever recorded in the North was minus 62 Celsius at Snag, Yukon, in February, 1947. That's cold, but in Siberia the thermometers have been

known to go mad at minus 75. Generally winter temperatures north of 60 range between four and minus 58 Celsius in the southern areas, and slightly lower farther north.

Summers are brief, but pleasant. That's because of the clear, sunny skies and scanty rainfall. The average temperature in July, the warmest month, is usually less that 10



Celsius in the Arctic and slightly above that farther south. Occasionally the mercury will soar to 32 above and when it does, you know the meaning of hot and dry.

That kind of weather is appreciated because summer is as brief as one month in places like Eureka, on the Fosheim

Peninsula of Ellesmere Island, 4,600 km north of Toronto.

Extending the pleasantness of summer is the brightness of the midnight sun, which marks the invisible Arctic Circle at 66 degrees 33 minutes north latitude. Here is the southerly limit of the land where the

sun does not set for one or more days during summer and does not rise for one or more days during winter. All of which means that during winter in many parts of the Arctic there is little or no sun for three months and the almost three months of continuous sun in summer.







All that darkness makes for a horrible way to spend winter, you might say. But it's not as bad as you might think. The aurora borealis, those flashing colored strobe lights of the North, plus moonlight, starlight and the clarity of Arctic nights give enough light for many normal activities.

During the long, bright days of summer the land's surface is unlocked from the freezing grip of a northern phenomenon – permafrost, or, permanently frozen ground. This rock-hard mixture of soil, stone and ice cannot be penetrated by water or roots. Core samples of permafrost may look like a marble cake or a chocolate parfait. It covers much of the North and creates grave problems for travel and construction.

The surface permafrost thaw varies. It may leave a few inches of spongy soil in one area, and deep, oozing bogs in another. Because the ground below remains frozen – to depths of 500 meters in places – there is



Left Pingos – giant upswellings with cores of solid ice – dot the Mackenzie Delta.

Right Miles of caverns have been carved through the rock canyon walls by the South Nahanni River.

no subsurface drainage for water. A tracked vehicle driven across a thawed area, therefore, will leave scars for years to come.

Much still has to be learned about permafrost. In earlier days when even less was known, houses and roads were built directly on top of it. Freezing and thawing convulsed the ground and often left buildings leaning at weird angles.

Permafrost also creates blisters or boils on the earth. Giant blisters called pingos

rise as tall as 60 meters on the flats of the Mackenzie Delta.

The general rule now is to insulate permafrost from any heat generated by man-made



structures. Where buildings must be erected on permafrost wooden piles are driven deep with the aid of steam and the floors are built about three feet off the ground. This leaves an insulating barrier of cold air. Another problem posed by permafrost is bringing water and sewage services to buildings. Many northern settlements have water tanks and honey buckets in each building because of the tremendous expense of overcoming the problem. Inuvik has a utilidor system: above ground conduit boxes that carry pipes from one building to another.





papples of purple fireweed.

At least 75 different species of birds ity to the Arctic shores each summer to breed, joining the featherfooted ptarmigan, owls, coal black myens and some gulls that reside

saxifrage, white Arollic cotton, bright Arctic

Out on the land and the sad less are the permanent dwellers, the life-giving caribou, the measive polar hear, the mease-like lemming, meascale fox and the large white hare, who there is that throw-back to incient times, the musk-oxen with its masses of week added and warmer than the linear cashmere.

Although man harely has begun to probe the hysterias of the Arelic Ocean, we already know that the proof hardlern son in full of the The largest forms of the within son moments such as the wholes within and son is, at the one be seen quite readily.



though their numbers are not as large is they once were. All are part of the Aralin's delicate life chain, a fine and tragile thread that leads out at the permetrest itself. The trozon ground traps prochais druptets of outer that nourish miniature plants. The

plants not fifth the inertits and rodents, which in turn freed the birds. And so on, And, speaking of insects. Anyone who does not believe that the North is allive. should run across the landra on a warm summer morning. Each footfall will produce a cloud of buzzing, slinging mocquitos, the likes of which are rarely seen in the south.

The Managine flight control that the form of particles of food for the fortal milling form.



Once lands of a nomadic people, the Yukon and Northwest Territories now have their populations gathered into numerous settlements across the North. More than one-half of northern residents live in major centres.

The principal communities are Whitehorse, the Yukon capital with a June, 1976 population of 13,311, and Yellowknife, the N.W.T. capital with 8,256. Both capitals are situated in the southern sections of their respective territories.

Outside Whitehorse, the Yukon communities are scarcer and smaller than in the neighboring N.W.T. The lead-zinc mining town of Faro is new and had 1,544 persons in 1976 while the gold rush boom town of Dawson City is a mere ghost of its former self. Its population had dwindled to 838 from 40,000 at the height of the 1898 rush. It is slightly larger that Watson Lake, the southeastern Alaska Highway community of 808 residents.

Four Northwest Territories communities outside Yellowknife have populations above 2,000. The Mackenzie Delta exploration town of Inuvik had 3,116 residents in 1976, while Hay River, a supply staging area on the south shore of Great Slave Lake, had 3,268. Fort Smith, an administration centre on the N.W.T. – Alberta border, had 2,288 and the eastern Arctic administrative town of Frobisher Bay on Baffin Island had 2,320.

In all, there are not many more than 75 communities or settlements dotting the immense expanse of the North.

When, how and from where did the ancestors of these northern Canadians come? The Metis are products of marriages between Indians and Europeans who came as explorers, fur traders and settlers. The Inuit and Indians have lived there for hundreds of decades.

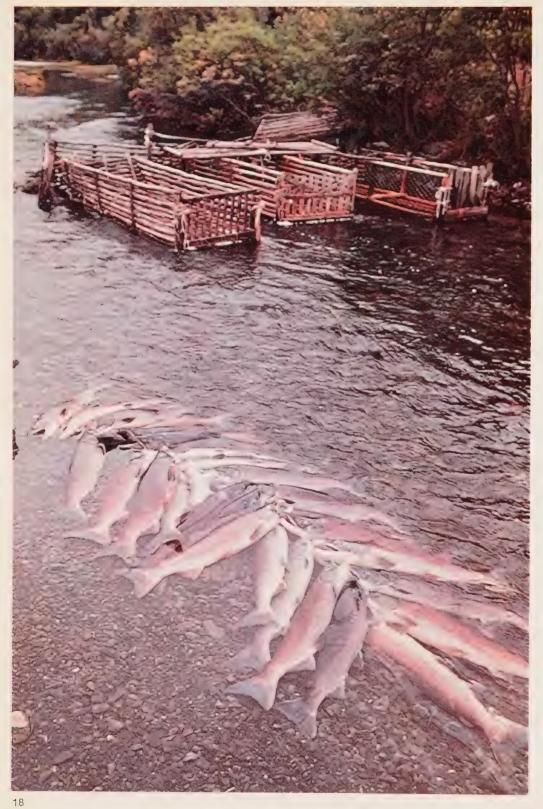
Anthropologists say that man has lived in the North American Arctic for 5,000 years or more, a rather remarkable feat when you consider the hard climate and the lack of modern technology to soften it. But the Inuit and Indians invented their own survival systems and tools.

Archaeologists generally feel that the ancestors of the present-day Inuit came from the area now known as Siberia, across the former Bering Strait land bridge. The Indians probably came the same route, as a related people, but penetrated to the southern plains, away from the cold Arctic weather.

The two groups did not mix. Tribal wars and other factors on the plains pushed some of the Indians north. They seldom spent much time beyond the treeline and the Inuit seldom left the tundra.

The Indians who occupy the Yukon and the Mackenzie River Valley are mainly of





the Athapaskan language group that extends south to New Mexico and Arizona. It had nine tribes in the Yukon and N.W.T.; the Hare, Dog-Rib, Slave, Chipewyan, Beaver, Kutchin, Sekani, Nahanni and Yellowknife.

Of the Indians, Inuit and Metis, the Inuit probably are the most widely recorded because of their adaptation to what the Europeans considered an almost impossible climate. A key word in describing the Inuit is ingenious. They are well known for their ability to improvise and invent.

Take the igloo – which simply means 'house' in Inuktitut, the Inuit language – a simple structure that can be constructed in one hour using nothing more than a wind-hardened patch of snow and a long knife made of tusk or bone. It provides solid shelter from the screaming Arctic winds and super insulation against the cold. It is the invention of the Canadian Inuit.

The kayak, hunting canoe, and the umiak – the large driftwood and skin traveling boat – are other examples of how the Inuit made what they needed with limited raw materials.

One story of a hunt not long ago illustrates the ingenuity of the Inuit.

The snowmobile rapidly has replaced the dogsled because it allows Inuit hunters to travel faster and farther afield. Three hunters from Coppermine on Coronation Gulf set off across the sea ice on two snowmobiles. One machine quit and the men pushed on with the remaining machine, which was new and in good condition.

Miles away from the settlement the second machine snapped a drive shaft, leaving the hunters with no transport except their feet. One hunter set off to get help. The other two, with virtually no tools or equipment, worked in plunging temperatures and fashioned a new shaft from a rifle barrel. They got the machine running and not far from home picked up their companion who was close to death.

The Indians were inventors in their own right. They made birch-bark canoes for summer travel and had snowshoes, toboggans or dogsleds for going through the soft, deep snows of the forest. They also had elaborate fish seines and the Yukon Indians used their remarkable fish wheel for trapping salmon.

Contact with the Europeans began about 400 years ago. But it was well into the 19th century before the white society brought widespread change to Indian life and well into this century when the Inuit began to be affected.

As early as 1508, Sebastian Cabot sailed to the North looking for the Northwest Passage to Asia. He was followed by Martin Frobisher in 1576, John Davis in 1585 and others. The search hit its climax in 1845 when Sir John Franklin and his two-ship crew of 129 disappeared mysteriously in the Arctic ice. Seach and rescue missions after the Franklin expedition charted many previously unknown parts of the Arctic.

Meanwhile, the quest for furs had started on the mainland. Samuel Hearne, between 1769 and 1772, walked across the tundra from Hudson Bay to the mouth of the Coppermine River on the Arctic Coast. Later, in 1789, Alexander Mackenzie of the North West Company traced the great river named for him.

The fur companies began establishing the first European settlements in the North. Some would be abandoned, others would thrive to become communities of the modern north.

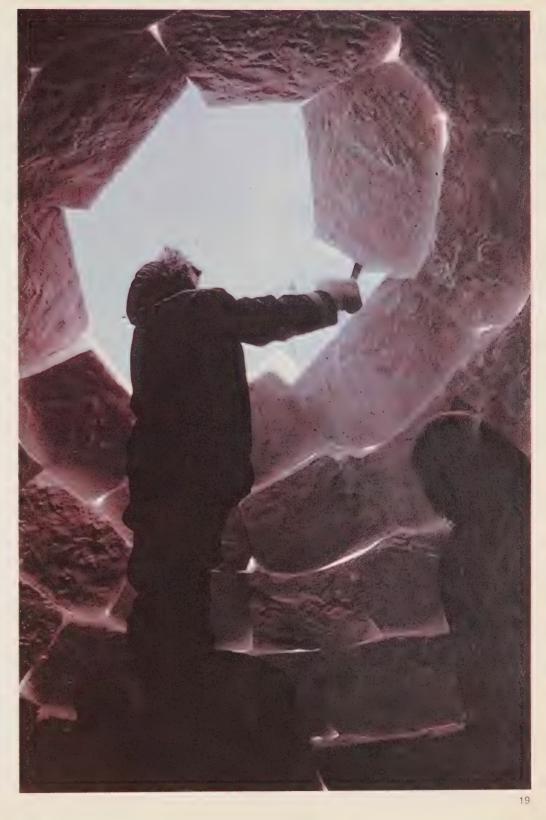
The invasion from the south brought different philosophies, strange concepts of the land and its treasures, new religions and previously-unknown illnesses. The North would never be the same.

Today, exploration rigs, construction crews and a variety of modern technologies are continuing to shrink the boundaries of the North. Native populations are centered on communities and the opportunities for living off the land have been diminishing.

Fewer people continue to live off the land exclusively but many still have the yearning and feeling for the land. That is evidenced by native land claims to most of the Northwest Territories and Yukon. These claims are a new and important factor in northern life and we'll talk about them in more detail later.

Left Crystal clear waters of the Klukshu River in the Yukon yield a fine catch of salmon.

Right The igloo: the resourceful use of a harsh environment to provide protection from that environment.







The boundaries of the northwest shifted rapidly. Gradually, the western provinces came into being, Manitoba in 1874, Alberta and Saskatchewan in 1905.

The Klondike strike in 1898 left the Yukon throbbing with activity. Two years later, it became a separate territory with its own Commissioner and appointed council of six. By 1912 northern Quebec, Ontario and Manitoba had taken on their present dimensions.

Its size drastically reduced, the N.W.T. had its government restructured. The 1905 N.W.T. Argendment Act provided for the appointment of a Commissioner and an appointed council of up to four members. The seat of government would continue to be Ottawa. Little was done under the changes, however. The N.W.T. entered 'The Big Sleep' and no council was appointed, nor was any legislation pussed for 16 years.

If was not until 1921 that the prosent government of the Northwest Territories really got its beginning. Oil was the mason.

Whan Alexander Mackenzra made his historic Journaly down the Mackenzra filver he noted that there were oil scopages in the area of what is now called Norman Wellin, just west of Great Bear Lake One hundred and 31 years later, Imperial Oil struck the black gold 80 kilometers down over from the companyity and loughed off a revival of interest in the North

A legislative council for the territory then was appointed. The territory was an remote one distances so great however, that reactivating the government caused little attractive distances. Many of the native people did not even know the government existed.

Another strike, this time gold in Yellowknife, provided many impelus in the late 1930s, Government might have grown their but the Second World War intervened.

The war brought changes to the North In this form of reads and military installations. After it was over the great frazen land gained a special importance and change in devergent Second relatively rapid.



another member was added making the council a body of five federal government appointees and four elected persons.

The balance of power reversed in 1968 when council was increased to 12 with seven elected members and five appointees. Simonie Michael of Frobisher Bay became the first elected Inuk (the singular for Inuit). In 1975, the council became a fully-elected body of 15 persons, the majority of them Inuit, Indian and Metis.

Because of the Klondike, which made Dawson City the largest community in the West, the Yukon Territory of open some of the stages of government development seen in the Northwest Territories. In 1899, at the height of the gold rush fever, the Yukon had a territorial council of seven, two elected. This increased to 10, live elected and five appointed, in 1905 and three years later it was a wholly-elected group.

The bubble burst suddenly. The rush waned and people began to move out. The territory suddenly found that its political development was no far intend of what was required. The federal Parliament in 1918 made it possible for the federal cabinet to above the council, but inclear it was reduced to a three-person elected body.

That's the way things remained Wille the Yakon illumbound through its own version of Thin Big Sicon Things awakened suddenly by the U.S. Army a Alaska Highway

construction during the Second World War. Boom times again brought the territorial council to life and it grew to five members in 1951, seven in 1980 to the present-day number of 12 elected members.

The Yukon and the Northwest Territories are different in many respects but both basically are governed in the same mariner. Each has a Commissioner appointed by the loderal government to be Ottawa's chief administrator. The Commissioner is responsible to the Minister of Indian Affairs and Northern Development.

Each territory has an executive committee that sits with the Commissioner as a quest-provincial abbinet. The committee sets policy and each executive committee member has special responsibilities in the ferritorial government. Some are in charge of government departments such as education, sould development or economic development.

In the Yukon, four members of the elected sound serve on the executive contribution. In the N.W.T. there are three

The councillors chosen by the people advise the territorial governments and make laws suggested by themselves or by the administration. Unlike provincial lighterors they cannot pess-taws that will involve large expenditures of money, onless the Commissioner and Ottawa approve. The Commissioner cannot apend furnitorial government lunds without council approval.

The scope of the territorial governments is almost as wide as any provincial government. They have active roles in education local government game resources, works social and economic affairs and other provincial fields of endeavour. Their powers are fewer, however, and the federal government retains control over mixt territorial natural resources.

Simply stated, the territories gradual thave been assuming the respectsibilities and trappings of provincial governments. They are on the road to responsible government. The liming for antiming provinceheed or perhans some new type of alternative, will be decided by Palliament after consultation with the peoples of the territories, and the people of Canadian population.



Each territory has its own member in the House of Commons and both have a representative in the Senate. Willy Adams of Rankin Inlet was named the first N.W.T. Senator in 1977 and became the first Inuk to serve in the upper house. Paul Lucier, a former Whitehorse mayor, became the first Yukon Senator in 1975.

In the next general federal election two Members of Parliament will be elected from the N.W.T., one from the west side and one from the east.

As yet there is no formally established system of party politics in the territorial councils. That may come after further expansion of the size of the councils. Both councils were expected to expand at least slightly for the territorial elections late in 1978.

Interestingly, although the Yukon always has had its seat of government at home – first in Dawson City, then in Whitehorse – it has been only slightly more than 10 years since the N.W.T. government moved from Ottawa.

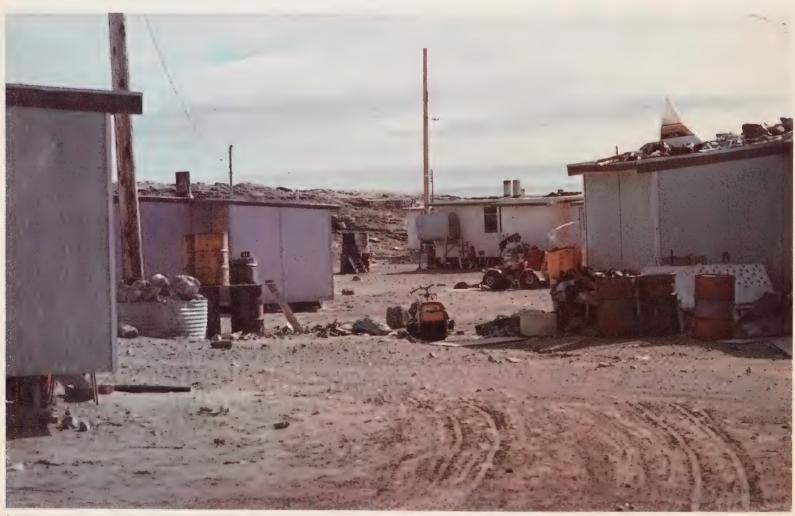
In the approaching autumn of 1967 Stuart Hodgson, former union leader from the West Coast and newly-appointed Commissioner, moved his office and fledgling government into close quarters at Yellowknife. There a sign proclaimed that the N.W.T. government had arrived and a small staff began work.

Today both territorial governments are operating from modern office buildings. The Yukon government is housed on a bank of the Yukon River and the N.W.T. government

is in the Arthur Laing Building at one of Yellowknife's main intersections. The latter building is named for a former Minister of Indian Affairs and Northern Development.

Compared with the Yukon, which developed in fits and starts over one-half a century, government and social changes in the N.W.T. have been meteoric. The native people, especially the Inuit, have been encouraged to settle into communities. Houses, schools, social centres, churches and government offices have popped up at a spectacular rate.

The days of animal hide houses in summer and igloos in winter as permanent residences have departed in the North as can be seen in both winter and summer at Resolute Bay.



School Bells

One of the main advantages of drawing populations into communities was education. High unemployment is a feature of life in many parts of the North today and one of the problems is that when jobs do become available a lot of northerners do not have the education or skills to fill them.

The reasons can be argued, but the fact is that the North is turning more to wage economy, and living off the land is becoming more and more difficult. Education and training in some skill or other is becoming a must for many northerners. That is not to say that traditional hunting, fishing and trapping are dead. In fact, there has been a resurgence of hunter life-style in the North.

Twenty-five years ago or more, a variety of authorities not necessarily related were operating schools in the North. Classes were irregular and curricula varied from place to place. Adult education did not exist. Teaching methods and teaching tools were based on life in the southern white society.

Improving the system was no cinch. People were spread out into small groups. School construction costs were too high to put a new school and teacher in every settlement of a few people. Residential schools, where children had to be away from home for the better part of each year, appeared to be one of many solutions. However, the children and their parents disliked the boarding school system.

These days there is a decline in residential school enrolment because of the extension

of grades taught in the smaller communities. The number of students in N.W.T. residential schools in 1970 was 1,180. In 1976, it was down to 489.

Native teaching assistants are being used and land living skills are being included in the curricula. Native languages are being taught, and, the Dick, Jane and Spot textbooks are being replaced with teaching aids that talk of northern people, polar bears and moose.

Adult education and continuing and special education now are a part of the northern school system.

In the 1976-77 school year there were close to 20,000 persons enrolled in elementary and secondary schools across the N.W.T. and Yukon. That's almost one-third of the entire northern population.



Traditional values and pursuits are maintained proudly in the North – from caribou hunting (upper left) and trapping (lower left) to cultural expressions found in print-making (upper right) – but in competition with southern values, will they be passed along to the young (lower right)?









Red Coats on the White Snow

In a thicket-choked valley deep in the Yukon or on the rocky, wave-battered shores of an Arctic Island, the Maple Leaf flag snaps proudly in the stiff northern breeze. Below it, or not far from it, there is a representative of the agency that has exercised a powerful and varied influence over the North for almost 100 years – the Royal Canadian Mounted Police.

Many arms of government are at work in the North today but for many years lone RCMP officers together with a scattering of missionaries, were the only government. They were the law, the administrators of government, the counsellors of people with problems. They acted as immigration officers, coroners, census takers, recorders of births and deaths, postmasters and mail carriers, game officers, and of course the symbols of Canadian sovereignty over the North. They even pulled teeth, when necessary.

Some of these roles also were performed by Hudson's Bay Co. personnel, church missionaries and later government officers.

The RCMP were keeping law and order in the Northwest more than 20 years before the first frenzied shouts of 'gold' echoed along the creeks of the Klondike. The Great Rush of '98 catapulted the force into the public spotlight and helped to make it famous throughout the world.

Men like Sam Steele, the adventure-seeking Mountie who followed settlement across the Canadian West and into the Yukon, did more than maintain the right on the raucous streets of Dawson City. They also stood for Canadian sovereignty in what basically was an American gold rush and at a time when people didn't care much about borders.

As the Klondike roar turned to a whisper, the RCMP presence was spreading into the Northwest Territories. In 1903, a post was established at Fort McPherson above the Arctic Circle and not far from the Yukon border. Other posts began to appear before the First World War and from these isolated cabins the force set forth on its legendary patrols. From Dawson City to Baker Lake on the west-central barrens, the RCMP were writing a history that never would be paralleled by any other police force.

The Mounties were such an important factor in the North that the RCMP Commissioner also was Commissioner of the N.W.T. from 1905 to 1919. Until 1960, each Commissioner of the force was an appointed member of the Northwest Territories council.

The dogteam patrols have vanished and the force had 331 persons in the North at the end of 1977, some patrolling on snowmobiles and Twin-Otter aircraft. Constables were being trained to be sensitive to the native lifestyle and more than two dozen special native constables were employed. The RCMP's beat ranges from the oil exploration camps along the Beaufort Sea to the busy streets of Yellowknife where highrise buildings overlook flashing traffic signals.

Despite the dawn of the technological age in the North, a problem of the dogteam days still exists for the RCMP. They are ex-

pected to uphold laws moulded in southern legislatures and courts, laws foreign to the philosophy of the Indians and Inuit. Sometimes they must bend the laws to fit the circumstances.

A Man Called Ekoktoegee

On October 15, 1955, an aircraft droned in lazily from Fort Smith and set down at Yellowknife airport. The door swung open and a balding, stern-looking man wearing severe rimless glasses emerged. Mr. Justice Jack Sissons, 63, first judge of the new Territorial Court of the Northwest Territories had arrived, and a remarkable period in Canadian jurisprudence and northern life began.

Previously, much of the justice in the N.W.T. had been administered from the south. Jack Sissons, an Orillia, Ontario boy with a long-time yearning for the North, was determined to change that. Starting with the basic principle that justice be taken to every man's door, he set off on a 11-year northern career that brought the fledgling court to the farthest corners of the North. He also set precedents for future developments.

Probably his greatest precedent was the one already established by some individual



RCMP officers – that the law had to be bent to meet northern situations. It was a principle vigorously followed by his successor Mr. Justice William Morrow, who served 10 years on the northern bench and was succeeded in 1976 by Mr. Justice Cal Tallis.

Flying in rough bush aircraft in the worst of weather, Justice Sissons did bring the judicial system to the native people. He unabashedly admitted being in the front lines for the struggle over native rights and for more responsible government in the North. He bent the law to embrace different cultures and some of his rulings went before the Supreme Court of Canada. To the Inuit he became known as Ekoktoegee, The One Who Listens To Things.

Justice Sissons tried many important cases but one gives a brief and valuable insight into life and justice North of 60. That is the case of Kikkik, who stood trial in 1958 for the murder of her half-brother, for criminal negligence in the death of her

young daughter and for abandonment of another child.

Kikkik and her family were Ihalmiut, inland Inuit, from the Ennadai Lake area of the central barrens not far north of the Manitoba-Saskatchewan borders. Her family and that of her half-brother Ootuk were caught out on the barrens with little food. Ootuk, for reasons not yet totally understood, shot Hallow, Kikkik's husband. Kikkik then fatally stabbed Ootuk.

Widowed and without food, Kikkik tried to guide her five children across the snows to a Hudson's Bay Post 64 kilometers away. After eight days on the trail she left two of the children in an igloo. Before rescue came, one child, age three died.

At the murder trial, defence counsel Sterling Lyon, now Manitoba premier, argued that the only conclusion Kikkik could have drawn was that Ootuk also planned to kill her and her children. Justice Sissons told the jury that justice demanded that they revert to an earlier age and try to understand Kikkik's life, land and society.

The verdict was not guilty, but Kikkik then had to stand trial on the other two charges.

Kikkik had abandoned her two children on the morning of the day she was rescued. They were still alive in the igloo but she said they had died during the night. Rescuers sent to find the bodies found one of the children still alive.

Kikkik's explanation was short and simple. The children could not walk and she had dragged them a long way. She did not tell the rescuers they were alive because she was afraid.

Justice Sissons said later the excuse would not be good enough in white society. But Inuit society was vastly different and Kikkik probably was genuinely afraid that she would be punished for revealing that she had abandoned two children in hopes of saving the others.

The jury found her not guilty on both counts.





Wings above the Tundra

No one thing has done more to shrink the hugeness of the North than that remarkable invention the flying machine. Voyages that once spanned months, created hardships and cost human lives are being made in less than a day. There is no place in the North that cannot be reached by some sort of flying machine. Air travel has created a revolution.

Airlines such as CP Air, Transair, Pacific Western and Nordair are flying daily into Whitehorse, Yellowknife, Inuvik, Resolute and Frobisher Bay, plus other northern centres. Smaller companies offer scheduled service into Dawson City, Eskimo Point, Rankin Inlet, Coppermine; numerous places considered remote less than a decade ago. Charters are available to go almost anywhere.

Aircraft bring supplies that used to come once a year. They fly court staff and govern-

ment administrators to the people, bring medical and dental care and supplies, take people to hospitals and make written communication a few days away instead of many months away.

The North, to a great extent, is what it is today because of flying, and flying owes a lot of its advances to the North. It was there that Canadians earned their reputations as some of the world's most skilled and rugged flyers.



The Canadian Arctic flying saga began in 1921 with the Imperial Oil Norman Wells strike. The company ordered two Junkers to be flown north from New York. There were misadventures but one of the planes reached Great Bear Lake and the airplane began its career as a working fixture of the North.

In the early and mid-1920s more aircraft entered the northern skies, Fokkers and Fairchilds and others whose progeny are crisscrossing the North today. At their controls were men such as 'Punch' Dickens and 'Wop' May, men who would become legends in their own time.

May, flying for Commercial Airways in 1930, pioneered the first airmail service the length of the Mackenzie, 1,920 kilometres from Fort McMurray, Alta., to Aklavik on the Delta.

At the same time, pilots with the names Ted Field, Jim Finnegan, Andy Cruickshank, Clyde Wann were opening the air routes of the Yukon, Grant McConachie, later President of CP Air, was pioneering the radio compass that became so vital to air naviga-

Suddenly it became evident that the aircraft would become the greatest man-made modern tool in the Arctic. It certainly was evident on a frigid day in February, 1932, when the RCMP used an aircraft for the first time in tracking down their man.

The helicopter is just one aspect of modern technology that has revolutionized travel and exploration in the North.



The Mad Trapper of Rat River

The air was so still that day that 'Wop' May, flying a single-engine Bellanca monoplane over the Yukon's meandering Eagle River, could hear the rifle shots ringing above the roar of the aircraft's huge engine. He nosed low over an unmoving figure in the snow, then tipped the wings to signal the posse spread out along the river. The signal meant that Albert Johnson, the mad trapper who had outrun and outwitted a combined force of white trappers, Indians and RCMP in a 48-day running battle, was dead.

Johnson, a strange and mysterious man, had roamed the North alone, living off the land, trapping and perhaps searching for lost mines. People saw or heard little of him until New Year's Eve of 1931 when two RCMP constables went to ask him about a complaint that he had been springing another man's traps. The police had visited Johnson's Rat River log cabin near the N.W.T.—Yukon border earlier, but he had refused to let them in or to speak to them.

They returned with a search warrant and were greeted by a gunshot blast through the cabin door. Const. Alfred 'Buns' King was hit and only a 20-hour mad dash overland to Aklavik saved the Mountie's life. Over the next six weeks Johnson led other posses on an incredible snowshoe and dogteam chase that left the pursuers, hardy and wise bushmen, totally amazed at the fugitive's ability to survive such an ordeal without decent shelter, food or fire.

There were more shootouts and one officer, Edgar 'Spike' Millen, was hit in the heart by Johnson's powerful 30-30 Savage.

Although no one believed that he would try, Johnson struck out across the snow-shrouded Richardson Mountains in the direction of Eagle River. Using dogteams, the RCMP were unable to catch Johnson who was ploughing ahead on heavy homemade snowshoes. They had a constant problem supplying food for the dogs and men. Finally, they decided to order up an aircraft.

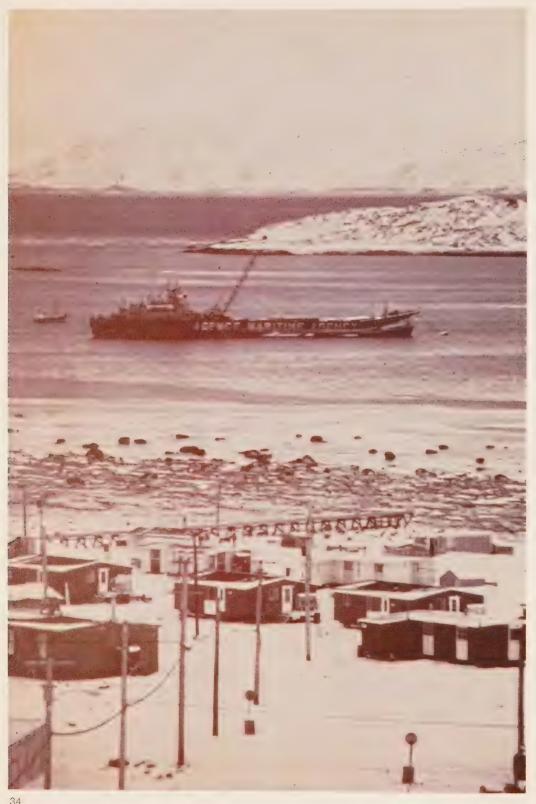
People scoffed. Aircraft had not been used in manhunts before. Conditions were difficult, and landing and taking off on skis, without airstrips, was dangerous.

May, a double ace in the First World War, joined the search with the Bellanca on February 7. He ferried hundreds of pounds of supplies to the searchers and constantly looked for the mad trapper's trail. No longer hampered by the supply problem, the posse closed in on Johnson and took him during a raging gun battle on the frozen river.

The airplane once again had shown its value and in the years to come it would be the central object in many a northern saga. Tributes and monuments to the aircraft and their pilots can be found throughout the North, and one is the Bellanca Building, housing federal offices in downtown Yellowknife.



Left Aeons-old glacier feed Wolfe Creek on Ellesmere Island. Right Forty kilometres from Coronation Gulf, the Hood River plunges into a gorge, forming Wilberforce Falls.



The North Today

For all the advantages the airplane has provided, it still has not solved one of the North's most serious transportation problems - cost. Air travel makes the North smaller by the day, bringing people and their communities closer to each other. But the price is high and in some areas of northern development it is prohibitive.

Goods brought in by air are more expensive than those carried by road, rail or ship. The farther north cargoes must be flown, the higher the freight charges.

Take vegetables, which are not yet grown commercially in the North. The price of fresh vegetables in Frobisher Bay has been as much as 170 percent higher than in Yellowknife. In Grise Fiord, at the southern tip of Ellesmere Island, the prices have been, 1,118 percent above those in Yellowknife. The Anti-Inflation Board estimated in December, 1977, that it cost \$72.54 a week for a sample food basket to feed a family of four in Yellowknife. That was the highest of all Canadian cities surveyed but it was the lowest in the Northwest Territories. The cost in Montreal, the lowest city surveyed, was \$47.39.

The same applies to other goods. In 1977, fuel oil in Yellowknife cost 22 percent and in Pelly Bay 160 percent more than in Saskatoon. These prices indicate the differences caused by freight charges. In Inuvik, on the other hand, it cost seven percent less because theirs comes from the Norman Wells refinery, halfway up the Mackenzie Valley.

It also costs more to take goods or materials out of the North, which is a damaging blow to development. Huge bodies of ore and other resources lie virtually untouched because it is too expensive to ship them to far-off markets.

The Yukon has impressive lead-zinc deposits not being mined and processed yet because distance makes them economically

Left Frobisher Bay, on Baffin Island, is the major community in the eastern Arctic.

Right Building year-round roads without affecting the environment - especially over permafrost is a major construction challenge in the North.



unfeasible. Arctic oil and gas finds might be marketed if they were located in the south. Because they are so far north, more exploration is needed to find larger reserves that will warrant constructing pipelines or other means of transport.

Alternatives to air do not come easy North of 60. It costs millions upon millions of dollars to build roads or rail lines anywhere these days. Justification for the expenditure of large sums to run a highway or rail line hundreds of kilometres across the North to a settlement of 800 people must often be found in long term development policies rather than immediate cost return.

The White Pass and Yukon Railway running 176 kilometres from Skagway on the Alaska Panhandle to Whitehorse was made possible by the Klondike discovery. It now carries some of the Yukon's resource wealth to the Pacific Coast. There has been talk of extending the line north of Whitehorse but again the problems of economics, distance and population, plus the resource factor, must be carefully considered.

The only other railway North of 60 is the Great Slave line from Alberta to Pine Point, N.W.T., near the southern shore of Great Slave Lake. This 696-kilometre iron link was opened in 1965 and carries lead and zinc south from the Pine Point Mines Ltd. operation.

There also are only two major water transport systems: the annual federal transport department sealift to the Eastern Arctic and Arctic Islands, and the Mackenzie River system. Both have their problems.

The sealift brings supplies to numerous tiny settlements throughout the Arctic. Modern technology, in the form of sturdier and more powerful icebreakers, now makes the task easier. Still, travelling the iceclogged Arctic seas seldom is clear sailing.

Originating at Fort McMurray and at Hay River, the Mackenzie River system is a life-line. Brawny tugs pushing heavily-laden barges supply Mackenzie Valley communities and bring millions of tons of supplies to exploration firms.

It is a lifeline with a brief annual life span, however. The Mackenzie shipping season to Tuktoyaktuk on the Arctic Coast averages only about 14 weeks each summer between breakup and freeze-up. The system also is difficult to navigate because of shallow water and shifting channels.

Aside from being a vital supply artery, the Mackenzie can offer an unforgettable vacation to the adventurous. By private boat or commercial vessel, the 2,720-kilometre trip from Fort McMurray to Inuvik, or a shorter excursion from Hay River, is exciting and memorable. The scenery is majestic.



Above Mountain Avens is the official flower of the Northwest Territories.

Right Rabbitkettle Hotsprings – a unique geological feature along the South Nahanni River.

Picnic on the Arctic Coast?

Probably sometime late in the spring of 1979 a Toronto family will be able to pack a picnic basket into the family auto and head for the beach at the Mackenzie Delta.

That's a gross exaggeration but the trip will be possible with the opening of the Dempster Highway in the northwest Yukon. The Dempster, named for an RCMP inspector, will connect the Dawson City – Whitehorse Klondike Highway with a portion of the Mackenzie Highway built south of Inuvik.

The road is the first from the south to cross the Arctic Circle. Construction crews crossed the magic line in 1977 and only a small section remained to be completed to link up with Inuvik. Later, a 144-kilometre extension likely will be built to Tuktoyaktuk, where motorists will be able to dip their wheels in the Arctic Ocean.

From a short hop south of Dawson City, the Dempster will stretch 550 kilometres to Fort McPherson, just inside the N.W.T. border. It will be another 176 kilometres from there to Inuvik.

Construction began in 1959 and has been an off-and-on affair. It is expected to cost \$92 million for the basics and it will be a rough road by southern standards. However, it may be destined to become a major supply route, complementing and competing with the Mackenzie water system.

Anyone planning the trip by car should go prepared. From Toronto the return trip will be more than 9,600 kilometres and will take two weeks to cover, based on 800 kilometres a day driving. From Whitehorse to Inuvik there will be 1,200 kilometres of rough dirt road, one way.

Some of the world's most glorious scenery and wildlife viewing will be had along the way, but facilities will be scarce. It will be wilderness travelling all the way.

The route also is historic. It follows the trail of Insp. William Dempster who in 1911 left Dawson City in search of the famous lost patrol. The four-man patrol went missing between Fort McPherson and Dawson City. Insp. Dempster was ordered to take another dogteam patrol over the route and he found that all four men had perished in the frozen wilderness.

The Dempster will be a resource road for the time being. Almost all Yukon communi-









ties have all-weather road connections, the main one being the Alaska Highway.

The only major road of any length in the N.W.T. is the Mackenzie Highway, from the N.W.T.—Alberta border to Hay River and Fort Simpson. A spur connects the main Mackenzie route with Yellowknife. Trucks from the south travel this gravel road with most of the supplies used in Hay River, Yellowknife and Fort Simpson. However, supply to Yellowknife reverts to air transport each spring and fall because there is no bridge at the Mackenzie River crossing. Ferries are used during summer and driving across the ice is possible after freeze-up.

The Mackenzie now is complete as far as Fort Simpson, 393 kilometres northwest of Hay River. Eventually it might follow the great river all the way to Inuvik. Construction has been halted just south of Wrigley, 670 kilometres from the N.W.T.—Alberta border. The latest estimate for pushing through to Inuvik is \$300 million.

Other road proposals are on the drawing boards, but for the Northwest Territories at least, it will be many years before road travel is available to all. One proposal that received approval early in January, 1978, is the Liard Highway construction. That road will connect Fort Simpson and Fort Nelson, B.C. on the Alaska Highway sometime in the early 1980's and it will be the first permanent road link between B.C. and the N.W.T.

The Treasure Chest

There is one point about the North over which there is no argument – it is one of the world's great treasure troves of non-renewable resources. There are differences of opinion over how we should be dipping into the treasure and at what speed.

Controversy over the social, economic and environmental aspects of northern resource development likely will be around as long as Canadians are. As in other matters, the people through the governments they elect, will have to decide the proper course to follow.

Mining has been, and will be for some time to come, the backbone of the Yukon and Northwest Territories economies. Value of mine production in 1976 was \$188 million in the N.W.T. and \$123 million in the Yukon. Seven N.W.T. mines were milling an average of 12,954 tons of ore a day while the five Yukon mines were processing 16,041 tons. The principal ores mined are gold, silver, copper, lead, zinc, tungsten, cadmium, bismuth, coal and asbestos.

An interesting development in mining has been the opening of the partly government-owned Nanisivik Mine near Arctic Bay on the northern end of Baffin Island. The mine and its associated facilities open in October, 1976, at a cost of \$70 million. In addition

to its obvious purpose of extracting the rich lead-zinc orebody, it will provide wage employment for those eastern Arctic Inuit that want it. The federal government owns 18 percent of Nanisivik and the goal is to achieve 60 to 65 percent Inuit employment.

Another important side of mining North of 60 is exploration. During 1976, mining exploration companies spent \$41.5 million on the search for metals in the N.W.T. and Yukon. Another \$2.5 million was spent for property and approximately \$13.5 million for property exploration and development.

There has been renewed interest in gold, silver and uranium properties in the N.W.T. and during 1976 there were 19,738 mining claims staked in the territory.

In the Yukon, the value of mine production has been falling, but exploration is increasing. The number of quartz claims staked in 1976 increased by 20.9 percent to 10,357.

Mine production in both territories in 1976 employed 2,838 persons, 1,592 in the N.W.T. and 1,246 in the Yukon. Many more jobs were created by exploration but these are almost impossible to estimate.

Oil and natural gas exploration caused a boom in the North, particularly the N.W.T., during the 70's. The search has slowed somewhat recently but two major explorations, Dome Petroleum's offshore Beaufort Sea project and the Panarctic Oil Ltd. drilling in the Arctic Islands, is proceeding at

In 1977, there were 48 natural gas wells North of 60. Five actually were producing.

Oil wells numbered 87, with 59 capable of producing and 26 actually producing. The producing wells, or wells with the capability, are at Norman Wells. Norman Wells production in 1976 was one million barrels of crude oil and 1.9 million cubic feet of natural gas.

The dollar figures associated with oil and gas exploration in the North boggle the mind. It is estimated that the industry spent \$375 million on northern exploration in 1976. Of this, \$245 million was acceptable for government work credits, and \$130 million was acceptable for government work credits, and \$130 million was for in-house studies, research and other work. Of the total, \$170 million was spent on well drilling.

Government income from N.W.T. and Yukon oil and gas development in 1976 totalled \$9.4 million.

Estimates of oil and gas reserves are constantly changing and cannot be pinpointed accurately. However, there is optimism in the petroleum industry that the North does contain enough oil and gas to market commercially in the south.







Lysyk, Dean of Law at the University of British Columbia. It held almost three months of public hearings in the Yukon.

There is a possibility that natural gas from the Mackenzie Delta area will be carried south in future via a Dempster Highway pipeline connection to the Alaska–Yukon line. The government will have to weigh the pros and cons of such a connection if and when some pipeline company puts forward a proposal.

Foothills Pipe Lines Ltd. of Calgary had until sometime in 1979 to put forward an application to build this line. Foothills won approval to build the Alaska–Yukon line.

Government agencies, including the National Energy Board, now are considering an application to build a natural gas pipeline from the High Arctic. A consortium called Polar Gas has proposed a 3,700 kilometre line as a possibility for moving Arctic Islands' gas to southern Canada.

The Polar Gas pipeline would start at Melville Island and connect several other Arctic Islands. It would cross Bathurst, Cornwallis and Somerset Islands and head south down the Boothia Peninsula and across the eastern barrens on the west side of Hudson Bay. It would cut through northern Manitoba and Northern Ontario, joining existing pipeline systems at Longlac, Ontario.

The proposal is very preliminary and depends a lot on how much more gas is found beneath the islands. Polar Gas estimates that five years would be required to build the pipeline, after government approval was received.

Studies also are being conducted on the possibilities of moving the gas in liquified form by tanker.

Decisions on pipelines have been and will continue to be difficult for the federal government. It has responsibility for the native people and the northern environment. As well, it has a responsibility to ensure that the country has adequate supplies of fuel.

Left Dome Petroleum drillships and support vessels wend their way through the ice of the Beaufort Sea.

Right Beluga whales calfing in Cunningham Inlet – ecologically sensitive areas like this must be avoided in resource exploration.



Cool, Clear Water

Perhaps the most important renewable resource North of 60 is water. Fifty percent of Canada's fresh water is located there. It is vital for wildlife, transport and industrial and municipal needs. Its potential for hydro-electric power generation is vast.

Unfortunately, although northern waters abound with fish, commercial fishing has been a risky business in the North. The growth rate of fish in the chilly waters is extremely slow, and shipping distances boost costs.

There is no commercial fishery in the Yukon. The primary importance of the fish there is to the native people and the tourism industry.

There have been attempts at commercial fishing in the N.W.T. A fishery on Great Slave Lake began in 1945 and continues to operate. Lake trout and whitefish are caught, flash frozen and exported to the United States, providing a reasonable industry for people in the region. Other smaller fisheries exist, but in the main, commercial fishing in the North remains a modest industry.

Trapping of furs, of course, was the reason that white society entered the North. But growing opposition in southern urban centres, use of synthetics and declining numbers of many species of fur-bearing animals has led to a decline in the importance of trapping to the northern economy. Once the No. 1 industry, it now ranks far behind mining.

It does, however, continue to be a main source of income for hundreds of native people and a source of extra income for hundreds of others. In the 1975–76 season, \$2.7 million worth of fur was trapped in the Northwest Territories alone. The average value over the last 20 years has been approximately \$1.4 million a year.

Another renewable resource, the forests, is not an overly large factor in the northern economy. Much of the N.W.T. is too cold for forests and much of the Yukon is too high. Again, growth rates are slow, a tree may take 150 to 200 years to mature. Near the treeline, maturity may mean a tree one or two inches in diameter.

There is a reasonable forest area that can be harvested in the more southerly areas. The Yukon and the Mackenzie Valley region contain an estimated 199,430 square kilometres of productive forest. This holds an estimated 645 billion cubic metres of marketable timber. The most common species are white and black spruce, lodgepole and jack pine, balsam, poplar, trembling aspen and white birch.





The Inuit have claimed most of the Northwest Territories beyond the treeline. They have asked that this land become a new territory with its own government to control its affairs. It would remain within Confederation, however, say the Inuit.

Much the same idea has been proposed by the Indian Brotherhood of the N.W.T. which has claimed the Mackenzie River Valley. The Brotherhood has suggested that three territories be created, one for the Inuit above the treeline, one for the Dene (Indians) which would cover much of the valley, and one urban-type territory centered on Yellowknife.

The Indian and Inuit proposals pose a conflict that has to be worked out at the negotiating table. Prime Minister Trudeau has said that Canada cannot allow creation of ethnically-based jurisdictions. The natives have denied that they wish to create separate native states and say they are simply seeking self-determination and control over their lands and resources.

Complicating the Mackenzie Valley situation has been a split between the Indians and Metis. The Metis disagree with the Indian Brotherhood's claim. In a September 28, 1977 claim they proposed splitting the N.W.T. into a Mackenzie Territory and a Central-Eastern Arctic Territory. They asked for a new legislative system which would see councillors elected at large. There also would be a native senate with veto power over any rules and regulations that adversely affected aboriginal lands.

The Indians and Metis had been together on the Mackenzie Valley claim until the split in 1976. Both groups live side by side in the same communities and the two claims to the one territory presented a tough problem for the federal government. Efforts were continuing to reunite the two groups for negotiation of one claim.

A fourth N.W.T. claim was presented by the Committee for Original People's Entitlement (COPE), representing Inuit living in the Mackenzie Delta-western Arctic region. The COPE claim proposes a regional municipal government for the Western Arctic, a public land management agency, exclusive ownership of some lands and royalties from oil and natural gas development.

In the Yukon, status Indians, non-status Indians and Metis together formed the Council for Yukon Indians (CYI) for claim negotiation purposes. The CYI claim covers most of the Yukon and asks for outright ownership of lands for native communities, exclusive hunting, trapping and fishing rights over other lands and compensation for past use of Indian land, plus a share in resource development. It also seeks ways of making the native people more self-determining.

The James Bay and Northern Quebec Agreement was proclaimed and became final on October 31, 1977. It gave 6,500 Cree and 4,200 Inuit \$225 million over 20 years, ownership of community lands and exclusive hunting and trapping rights over large areas. It allows creation of a new system of local government to be controlled by the natives. In return, the Indians and Inuit surrendered aboriginal claims to roughly 981,610 square kilometres.

The road to settlement of claims has been long and arduous. It probably will continue to be so because all sides involved are seeking fair, long-lasting settlements.

An interesting point, which says considerable about Canadians, is that there has been virtually no objection to the idea of settling native claims. The general public view since 1973 has been that there should be honest and just settlements.

Lands claims settlements are seen as urgent because of the increasing infiux of southerners and southern lifestyles. Relatively few people move North to stay, but thousands of construction workers, government officials, businessmen and tourists flow into the Northwest Territories and Yukon each month.

Who could have imagined 30 years ago that huge numbers of people would be pouring into this seemingly harsh, inaccessible and expensive land?

When more outsiders than residents start entering a territory there is the potential for problems. The northern lifestyle and philosophy just are not the same as those of the south. Persons going North, for whatever reasons, should remember that. Northerners are extremely friendly and helpful but they also are cautious of people from 'The Outside'.

They are very proud of their territories and what they are achieving there. They have a strong feeling of participating in something new, exciting and important. They are pioneers, no-nonsense types who don't cotton to fools easily.

Good advice to anyone going North of 60 is to learn to be a good listener. Most northerners have had interesting experiences. Sitting back and listening to these will be a lot more enjoyable and productive than hogging the conversation with probably boring news of the south.

Try to learn about the native people and their cultures when you travel north. These people are honest and open and will help anyone who shows a genuine willingness to broaden his or her horizons. Show respect for their way of life and their rights.

But whether you are in the North for work or holidays, or a combination of both, try to get out on the land and get the feel of the place. The land itself has a lot to say.

Robert Service listened to it when he went North three-quarters of a century ago in the Klondike Rush. Here's what he wrote in The Spell Of The Yukon:

"I wanted the gold and I sought it: I scrabbled and mucked like a slave. Was it famine or scurvy - I fought it. I hurled my youth into the grave. I wanted the gold and I got it -Came out with a fortune last fall. -Yet somehow life's not what I thought it, And somehow the gold isn't all. No! There's the land. (Have you seen it?) It's the cussedest land that I know, From the big, dizzy mountains that screen it, To the deep, deathlike valleys below. Some say God was tired when He made it; Some say it's a fine land to shun; Maybe: but there's some as would trade it For no land on earth - and I'm one."

The Richardson Mountains run north to the Beaufort Sea, forming a natural boundary between the Yukon and the NWT.



